FREQUENTLY ASKED QUESTIONS

1. *Who are the Software Assurance practitioners?*

   Everyone: (e.g., software and systems engineers, safety engineers, software quality personnel, and IV & V). However, your Center and contract SA teams need to assure the practice of software assurance.

2. *What can Software Assurance do for project management?*

   Software Assurance personnel can provide objective insight into the maturity and quality of software processes and products.

3. *Can Software Assurance requirements be tailored?*

   Absolutely! The level of Software Assurance is dependent on the software size, complexity, criticality, and level of risk.

4. *Where can I find out more about Software Assurance?*

   Contact your Center's Software Assurance Lead.

YOUR SOFTWARE ASSURANCE CONTACT:

CONTACTS

NASA SOFTWARE ASSURANCE WEB SITE:

www.hq.nasa.gov/office/codeq/software

STANDARDS AND GUIDEBOOKS:

- NASA Software Assurance Standard, NASA-STD-8739.8
- NASA Software Assurance Guidebook, NASA-GB-A201
- NASA Software Safety Standard, NASA-STD-8719.13
- NASA Software Safety Guidebook, NASA-GB-8719.13

SOFTWARE ASSURANCE TRAINING:

- *https://solar.msfc.nasa.gov*

OTHER SITES FOR INFORMATION:

- *http://software.nasa.gov*
- *http://standards.nasa.gov*
- *http://www.ivv.nasa.gov/business/research/SARP*

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Software Assurance Disciplines

- Software Quality
- Software Safety
- Independent Verification and Validation
- Software Verification and Validation
- Software Reliability

The collective effect of all disciplines provides assurance of mission safety, reliability, and quality.

OVERVIEW

Software Assurance is an umbrella risk identification and mitigation strategy for mission and safety assurance of all NASA software. This software includes:

- Software developed for or by NASA
- COTS, GOTS, and MOTS software, when included in a NASA system
- Use of new and existing software products (e.g., reuse, legacy, heritage)
- Firmware and auto-generated code

Example activities include:

- Software classification
- Proposal and contract evaluation
- Requirements traceability
- Design and code analyses
- Engineering peer reviews
- Test planning and test execution
- Audits and assessments

See NASA's Software Assurance Standard, NASA-STD-8739.8 for:

- A common framework for consistent practices across NASA programs
- Basic procedures for establishing and maintaining an effective software assurance program
- Specific requirements for each software assurance discipline

BENEFITS

Software Assurance provides insight into the software development processes and products throughout the life cycle.

Focuses on opportunities for:

- Early error detection
- Problem prevention
- Risk identification and mitigation

Enables improvement of future software products and services!!

KEYS TO A SUCCESSFUL SOFTWARE ASSURANCE PROGRAM

- Identify a person responsible for directing and managing the Software Assurance Program
- Define software assurance requirements early in the life cycle
- Develop a Software Assurance Plan
- Monitor processes throughout the system and software development life cycle
- Evaluate software and deliverables to assure that quality and safety are being built into the products
- Ensure compliance with established standards and procedures
- Establish metrics to help measure quality
- Assure that problems and risks are documented, reported, addressed, and tracked to closure
- Prepare and maintain software assurance records and status reports
- Capture Lessons Learned to improve the quality of future products and services